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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/920,705	08/02/2001	Richard M. Amasino	960296.97214	6991

7590

07/28/2006

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EXAMINER

BAUM, STUART F

ART UNIT

PAPER NUMBER

1638

DATE MAILED: 07/28/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/920,705	Applicant(s) AMASINO ET AL.	
	Examiner Stuart F. Baum	Art Unit 1638	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 15 May 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,4-9,12-16 and 19-27 is/are pending in the application.
- 4a) Of the above claim(s) 27 is/are withdrawn from consideration.
- 5) ☒ Claim(s) 5 is/are allowed.
- 6) ☒ Claim(s) 1,4,6-9,12-16,19,21-24,26 and 27 is/are rejected.
- 7) ☒ Claim(s) 20 and 25 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>5/15/2006</u> | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. The amendment filed 5/15/2006 has been entered.
2. Claims 1, 4-9, 12-16, and 19-27 are pending.
Claims 2-3, 10-11, and 17-18 have been canceled.
Claim 27 has been withdrawn for being drawn to a non-elected invention.
3. Claims 1, 4-9, 12-16, and 19-26, including SEQ ID NO:2 encoding SEQ ID NO:3 are examined in the present office action.
4. Rejections and objections not set forth below are withdrawn.
5. The text of those sections of Title 35, U.S. Code not included in this office action can be found in a prior office action.
6. This application contains claim 27 drawn to an invention nonelected with traverse filed 5/29/2003 and 6/29/2004. A complete reply to the final rejection must include cancellation of nonelected claims or other appropriate action (37 CFR 1.144) See MPEP § 821.01.

Claim Objections

7. Claim 1, line 5 is objected to for omitting the word --level-- after the recitation “amino acid”.

Claim 13, line 3 is objected to for reciting “earlier flowering timing” instead of --earlier flowering time--.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

8. Claims 1, 4, 6-7 and 23 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The rejection includes dependent claims.

Claim 1 is indefinite for reciting “polynucleotide having a coding region which has at least 70% sequence identity at the amino acid to SEQ ID NO:3”. Coding regions comprise a DNA sequence, not an amino acid sequence.

Claim 23 is indefinite for lacking antecedence within the claim. Applicants recite “A DNA sequence” and “coding sequence” followed by “wherein the polynucleotide sequence”. Applicants have not previously recited a “polynucleotide sequence”.

Written Description

9. Claims 1-4, 6-9, 12, 14-16, 19, 21-22, 24 and 26 remain rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. This rejection is maintained for the reasons of record set forth in the Official action mailed 5/18/2005. Applicant’s arguments filed 5/15/2006 have been fully considered but they are not persuasive.

Applicants contend six *fpa* mutants are described in the instant application. Applicants contend that since the publication of Applicants’ work, other *fpa* genes have been identified

Art Unit: 1638

(paragraph bridging pages 8 and 9 of Remarks). Lastly, Applicants contend that the *pea fpa* homolog is 72% sequence identical at the amino acid level to Applicants' sequence, and that this supports Applicants' claims drawn to 70% sequence identity (*Ibid*).

The Office contends that six *fpa* mutations, though valuable in the context of additional data, e.g., a sequence alignment of *FPA* homologs, do not support claims drawn to 70% sequence identity. The encoded polypeptide comprises 901 amino acids, given 70% sequence identity, 270 amino acids can be changed and still be encompassed by Applicants' claims. Based on the six mutations, one skilled in the art would not be apprised of all the amino acids that are essential for the activity of the complete polypeptide. Lastly, information pertinent to fulfilling the written description requirement need be in possession by Applicant at the time the application was filed.

Scope of Enablement

10. Claims 1-4, 6-9, 12, 14-16, 19, 21-22, 24 and 26 remain rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for SEQ ID NO:1 and 2 encoding SEQ ID NO:3, a transgenic plant comprising a transgene comprising SEQ ID NO:2 in sense orientation, a plant or plant seed comprising a genetic construct comprising SEQ ID NO:2 in sense orientation, wherein the transgenic plant, plant or plant seed will flower early compared to a plant not comprising said transgene, or construct; or a method for increasing the time to flowering in Arabidopsis comprising transforming Arabidopsis with a construct comprising SEQ ID NO:1 or 2 operably linked to a promoter in sense orientation, wherein SEQ ID NO:1 or 2 encode the polypeptide of SEQ ID NO:3, does not reasonably provide enablement for any isolated DNA sequence encoding a protein having at least 70% or 80% sequence identity at the

Art Unit: 1638

amino acid level to SEQ ID NO:3 and plant transformation therewith, or method of producing a transgenic plant with earlier flowering time comprising introducing said DNA sequence into a plant. The specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention commensurate in scope with these claims. This rejection is maintained for the reasons of record set forth in the Official action mailed 2/10/2006. Applicant's arguments filed 5/15/2006 have been fully considered but they are not persuasive.

Applicants contend that the claims are limited to those transgenes or genetic constructs that express a protein having more than 70% identity with the amino acid sequence of the protein produced by SEQ ID NO:2 and the transgenes must be effective to produce an earlier flowering phenotype compared to a non-transgenic plant (page 9 of Remarks, 1st full paragraph).

The Office contends that Applicants have not provided guidance for selecting those polynucleotide sequences that encode a protein having 70% amino acid identity with the protein encoded by SEQ ID NO:2 and when transformed into a plant, produce a plant that flowers earlier compared to a plant not expressing the introduced polynucleotide. Therefore, given the state-of-the-art as discussed in the office action mailed 2/10/2006, and the lack of disclosure by applicant, undue trial and error experimentation would be required by one of skill in the art to make and/or use the broadly claimed invention.

11. Claims 1, 4-9, 12-16 and 19-26 are deemed free of the prior art, given the failure of the prior art to teach or reasonably suggest an isolated polynucleotide of SEQ ID NO:2 encoding SEQ ID NO:3, and transgenic plant, plant, plant seed or method comprising said polynucleotide.

Art Unit: 1638

12. Claim 5 is allowable.

13. Claims 20 and 25 are objected to for being dependent on a rejected base claim, but would be allowable if rewritten in independent form, including all the limitations from the claim from which they are dependent.

14. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

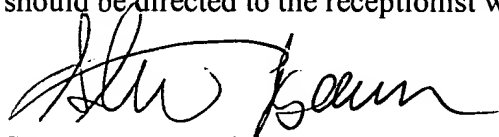
A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

15. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Stuart F. Baum whose telephone number is 571-272-0792. The examiner can normally be reached on M-F 8:30-5:00.

Art Unit: 1638

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Anne Marie Grunberg can be reached at 571-272-0975. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 571-272-1600.

A handwritten signature in black ink, appearing to read "Stuart F. Baum". The signature is fluid and cursive, with the first name "Stuart" and last name "Baum" clearly distinguishable.

Stuart F. Baum Ph.D.

Patent Examiner

Art Unit 1638

July 20, 2006

STUART F. BAUM, PH.D.
PATENT EXAMINER